

# PATENT COOPERATION TREATY

**Fenster & Co.**  
15 -02- 2005  
Docketed by *RW*

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
PAUL FENSTER  
FENSTER AND COMPANY  
INTELLECTUAL PROPERTY 2002 LTD.  
PETACH TIKVA, ISRAEL 49002

## PCT

### WRITTEN OPINION

(PCT Rule 66)

*due 27. March 05*

|  |  |
|--|--|
| Date of Mailing<br>(day/month/year) <b>21 JAN 2005</b>   |  |
| Applicant's or agent's file reference<br><b>396/03683</b>  | REPLY DUE<br>within 2 months/days from<br>the above date of mailing              |
| International application No.<br><b>PCT/IL03/00707</b>   | International filing date (day/month/year)<br><b>28 August 2003 (28.08.2003)</b> |
| Priority date (day/month/year)<br><b>28 August 2002 (28.08.2002)</b>   |  |
| International Patent Classification (IPC) or both national classification and IPC<br><b>IPC(7): A61B 5/00 and US Cl.: 600/407, 310</b> |  |
| Applicant<br><b>EGOZI, NOAM</b>  |  |

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).~~

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **28 December 2004 (28.12.2004)**

|   |   |
|---|---|
| Name and mailing address of the IPEA/US<br>Mail Stop PCT, Attn: IPEA/US<br>Commissioner for Patents<br>P.O. Box 1450<br>Alexandria, Virginia 22313-1450<br>Facsimile No. (703) 305-3230 | Authorized officer <i>J. Hurley</i><br>Shawna J. Shaw<br>Telephone No. (703) 308-0858 |
|---|---|

# WRITTEN OPINION

International application No.

PCT/IL03/00707

## I. Basis of the opinion

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages 1-20, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages 21-26, as originally filed  
 pages NONE, as amended (together with any statement) under Article 19  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
 pages 1-8, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages NONE, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

### 5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

## WRITTEN OPINION

International application No.  
PCT/IL03/00707**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

|                               |                    |     |
|-------------------------------|--------------------|-----|
| Novelty (N)                   | Claims <u>1-53</u> | YES |
|                               | Claims <u>NONE</u> | NO  |
| Inventive Step (IS)           | Claims <u>NONE</u> | YES |
|                               | Claims <u>1-53</u> | NO  |
| Industrial Applicability (IA) | Claims <u>1-53</u> | YES |
|                               | Claims <u>NONE</u> | NO  |

**2. CITATIONS AND EXPLANATIONS**

Claims 1-5, 10-17, 23-29, 33-40, 44, 48-51 and 53 lack an inventive step under PCT Article 33(3) as being obvious over Kantorovich of record in view of Dymling et al. Regarding claims 1-5, 10-17, 23-29, 33-40, 44, 48-51 and 53, Kantorovich differs from the claimed invention in that ultrasound (doppler) signals are used instead of electromagnetic signals. See col. 3, line 30 - col. 4 line 25; col. 24, lines 26-31 and col. 30, lines 1-17. Dymling et al. disclose detecting gas bubbles using either ultrasound or laser-doppler. See col. 2, lines 23-25; col. 6, lines 11-28 and claim 11. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to use laser-doppler instead of ultrasound-doppler in the invention of Kantorovich as taught by Dymling et al. to provide an equivalent known technique and/or improved spatial resolution.

Claims 6-9, 30-32, 45-47 and 52 lack an inventive step under PCT Article 33(3) as being obvious over Kantorovich in view of Dymling et al. as applied to claim 1 and 52 above and further in view of Sarussi. Regarding claims 6-9, 30-32, 45-47 and 52, Kantorovich and Dymling et al. differ from the claimed invention in that physical parameters such as heart rate, oxygen saturation, respiration rate are not explicitly addressed. Sarussi et al. demonstrate that it is known to detect such parameters using externally-worn optical means such a wrist band wherein the wavelengths are selectively absorbed by blood constituents. See pages 7, 13-14, 39 and 41. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to incorporate the circuitry of Sarussi et al. into the externally-worn personal monitor of Kantorovich in view of Dymling et al. to provide more comprehensive physiological monitoring of an individual in space or underwater and/or early indication of respiratory distress in such oxygen-depleted environments.

Claims 18-22 and 41-43 lack an inventive step under PCT Article 33(3) as being obvious over Kantorovich of record in view of Dymling et al. of record and further in view of Bachalo or Johnson et al. Regarding claims 18-22 and 41-43, Kantorovich and Dymling et al. differ from the claimed invention in that AM analysis is not explicitly addressed. Bachalo and Johnson et al. demonstrate that it is well known to use AM analysis to indicate the presence and size of gas bubbles (see Bachalo col. 5, lines 29-35; col. 7, lines 48-58; Johnson et al. col. 10, lines 25-48; claims 1, 2 and 4). It would have therefore been obvious at the time the invention was made to a person of ordinary skill in the art to use AM analysis to detect the existence and property of a gas bubble as is well established in the art.

## ----- NEW CITATIONS -----

US 5,056,357 A (DYMLING et al.) 15 October 1991, see entire document.  
 US 4,627,726 A (TURNER) 09 December 1986, see entire document.  
 US 4,329,054 A (BACHALO) 11 May 1982, see entire document.  
 US 5,394,732 A (JOHNSON et al.) 07 March 1995, see entire document.  
 WO 99/63883 (SARUSSI) 16 December 1999, see entire document.

WRITTEN OPINION

International application No.  
PCT/IL03/00707**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**TIME LIMIT:**

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.